

Trend Study 16C-38-02

Study site name: Pleasant Creek.

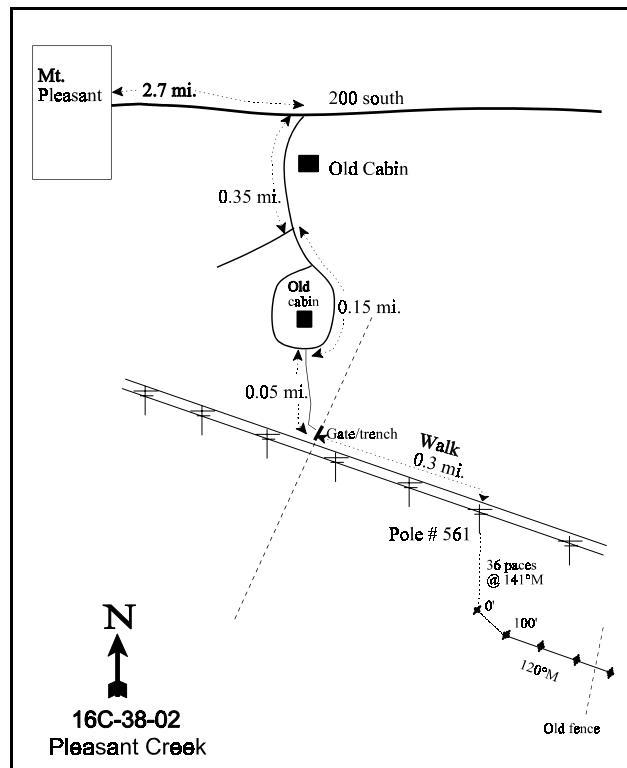
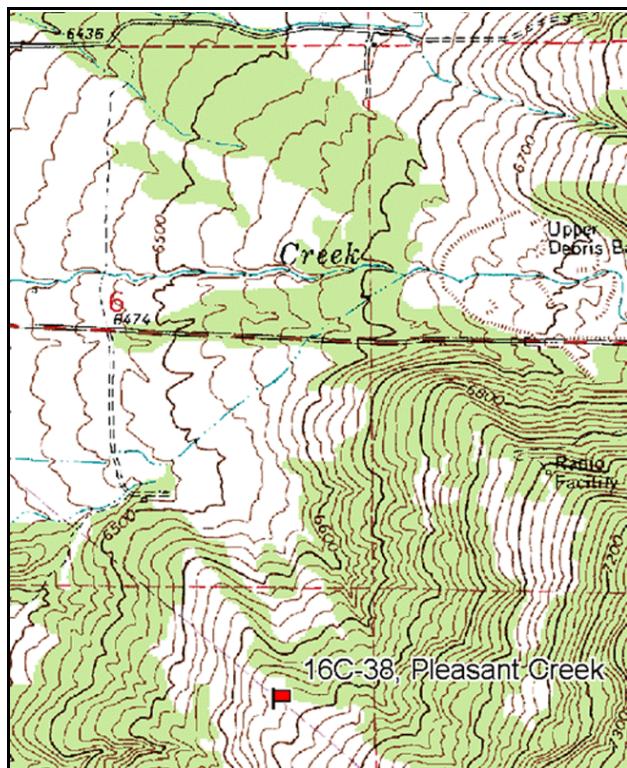
Vegetation type: Mountain Brush.

Compass bearing: frequency baseline 133 degrees magnetic.

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

From the intersection of Highway 89 and 200 South in downtown Mt. Pleasant, take 200 South east for 2.7 miles. Turn right (south) and go 0.35 miles. Stay to the right and go 0.15 miles to the powerline road. Take a left (east) here and go 0.05 miles to a gate (which may be locked). From this gate, continue eastward for another 0.3 miles and stop at the third set of power poles from the gate. The 0-foot baseline stake is 36 paces from power pole # 561 at an azimuth of 141 degrees magnetic.



Map Name: Mt. Pleasant

Township 15S, Range 5E, Section 7

Diagrammatic Sketch

GPS: NAD 27, UTM 12S 4375785 N 465807 E

DISCUSSION

Pleasant Creek - Trend Study No. 16C-38

The Pleasant Creek study samples a mixed mountain brush community located in the foothills above the town of Mt. Pleasant. The transect is located beneath the large power transmission lines which cross the mountain. The site lies on a gentle slope (7%) facing the northwest at an elevation of 6,700 feet. This area is considered important winter range as the site supports several preferred browse species. Pellet group quadrat frequencies indicate elk and deer use to be light to moderate, with cattle and sheep use being light. A pellet group transect read in 2002 estimated 80 deer days use/acre (197 ddu/ha) and 27 elk days use/acre (68 edu/ha). No cattle pats or sheep pellets were sampled in the transect in 2002.

Soils are moderate in depth, with an estimated effective rooting depth of just over 12 inches. Soil textural analysis indicates a clay soil with a neutral reaction (pH of 7.2). The soil temperature is relatively cool at 53°F (depth of 14 inches). Rock is common throughout the upper 16 inches of the profile. Vegetative cover is very good with adequate litter cover in most places. Percent bare soil has remained stable in all sampled years at an average of 25%. Bare interspaces exhibit slight erosion, with moderate pedestalling around the base of shrubs and bunch grasses. An erosion condition class assessment determined the site as stable in 2002.

The area has a moderately low density of juniper interspersed with the mountain brush community. Point-center quarter data taken in 2002 estimated 80 trees/acre. In 1989, most of the trees were between 1 and 4 feet in height. In 1997 and 2002, trees ranged from 7 to 10 feet in height. The mixed mountain brush community is the key component, along with a significant herbaceous understory. The most numerous woody species is low rabbitbrush. In 1989, the population showed signs of significant browsing by domestic sheep that were in the area earlier in the season. Low rabbitbrush had a stable population estimated at 12,340 plants/acre in 2002, composed mostly of mature plants.

The key browse species is mountain big sagebrush which provided 24% of the browse cover in 1997 and 2002. Density for this species increased from 1,780 plants/acre in 1997 to 2,740 plants/acre in 2002. The recruitment of the young age class has been moderately abundant in all years, ranging from 19% to 27% of the population. The mountain big sagebrush population shows generally good vigor, low decadency, and light to moderate use in 2002. Leader growth was minimal in 2002 averaging just over 1 inch.

Other palatable browse species sampled on the site include serviceberry, basin big sagebrush, bitterbrush, and snowberry. These less common species together contribute an additional 32% of the total browse cover. In 2002, serviceberry and bitterbrush show mostly heavy use, while snowberry and basin big sagebrush display light and moderate use respectively. Bitterbrush was noted as having an abundance of leaders in 2002, although growth was minimal, averaging 2.5 inches.

Forbs are one of the key components on this site. Diversity is high, as 36 species were identified in 1997 and 30 in 2002. The forb component contributed 37% of the herbaceous cover in 1997, decreasing to 29% in 2002. Sum of nested frequency for perennial forbs declined by 26% between 1997 and 2002. Decreases in number of species sampled, cover, and nested frequency between 1997 and 2002 are mostly the results of the drought. This should improve with better precipitation in the future. The most abundant species include low penstemon and longleaf phlox. Several weedy increasers are present in the understory including houndstongue, stickseed, and aster. The grass component is also diverse with 11 perennial species being sampled in 2002. Grass abundance is moderate due to the presence of Kentucky bluegrass and bluebunch wheatgrass. Together they provided almost 80% of the grass cover in 1997, increasing to 92% in 2002. Both showed moderate utilization during the 1997 reading. However, neither showed noticeable use during the 2002 reading. Most of the other perennials occur in only a few quadrats. Sum of nested frequency for perennial grasses declined by 19% between 1997 and 2002. As with the forb component, this decline is likely a result of drought conditions in 2002 and should improve with better precipitation.

1989 APPARENT TREND ASSESSMENT

Soil trend appears stable with good cover from the herbaceous understory. Diversity and a high density of forbs and shrubs contribute to an apparently stable vegetative community. There are some increase species, but without knowing the grazing history, it is difficult to predict future trends as they relate to current management. Overall, it appears to be a rather dynamic, but in the long-term, a stable and productive site.

1997 TREND ASSESSMENT

Soil trend is stable with percent cover of bare soil remaining about the same and almost 50% of the total vegetative cover coming from herbaceous species. The trend for preferred browse is stable, and should remain so as long as canopy cover and density of juniper stay relatively low. Trend for the herbaceous understory is mixed. Sum of nested frequency for perennial grasses indicates that it is slightly improved, but for perennial forbs it has gone down slightly. Because grasses make up the majority of the herbaceous cover (63%), the overall trend is assessed as stable.

TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - stable (3)

2002 TREND ASSESSMENT

Trend for soil is stable. Ground cover characteristics remain nearly identical to 1997 estimates. Bare soil is moderately high at 26%, but the ratio of protective cover to bare soil remains good at over 3:1. Soils show minimal erosion. Trend for browse is stable. The key species, mountain big sagebrush, has a slightly increasing population due to a moderately abundant young age class. Mountain big sagebrush has low decadence, generally good vigor, and shows light to moderate use. Bitterbrush provides additional forage and has a stable, but heavily browsed mature population. The herbaceous understory trend is slightly down. Sum of nested frequency for perennial grasses and forbs declined in 2002 with drought. However, diversity remains high, and abundance should improve with normal precipitation patterns.

TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - slightly down (2)

HERBACEOUS TRENDS --

Herd unit 16C, Study no: 38

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'89	'97	'02	'89	'97	'02	'97	'02
G	Agropyron cristatum	-	6	5	-	2	2	.06	.15
G	Agropyron spicatum	a166	ab171	b196	66	60	65	8.60	8.50
G	Bromus japonicus (a)	-	b93	a7	-	33	4	.99	.02
G	Bromus tectorum (a)	-	b73	a8	-	28	5	.63	.02
G	Carex spp.	-	-	1	-	-	1	-	.03
G	Melica bulbosa	1	2	2	1	1	2	.00	.16
G	Oryzopsis hymenoides	a-	b9	ab5	-	5	2	.08	.16
G	Poa fendleriana	b8	a-	a1	3	-	1	-	.00
G	Poa pratensis	b115	b101	a45	43	31	20	3.78	1.49

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'89	'97	'02	'89	'97	'02	'97	'02
G	Poa secunda	a 10	b 48	ab 33	7	19	15	.46	.56
G	Sitanion hystrix	ab 16	b 29	a 2	7	12	1	.34	.03
G	Stipa columbiana	a -	a 2	b 18	-	1	9	.03	.83
G	Stipa lettermani	ab 15	b 24	a 8	6	13	4	.71	.24
Total for Annual Grasses		0	166	15	0	61	9	1.62	0.04
Total for Perennial Grasses		331	392	316	133	144	122	14.10	12.17
Total for Grasses		331	558	331	133	205	131	15.73	12.21
F	Achillea millefolium	-	4	4	-	1	1	.38	.15
F	Agoseris glauca	-	3	5	-	1	3	.00	.01
F	Alyssum alyssoides (a)	-	7	3	-	3	1	.01	.00
F	Allium spp.	a 3	ab 12	b 16	1	6	10	.05	.07
F	Arabis spp.	4	2	-	2	1	-	.00	-
F	Astragalus convallarius	40	45	32	18	23	13	.59	.38
F	Aster spp.	79	76	54	31	31	25	1.18	.52
F	Astragalus spp.	b 14	a 1	a 2	7	1	1	.00	.03
F	Astragalus utahensis	-	5	5	-	2	3	.01	.01
F	Carduus nutans (a)	-	10	12	-	4	7	.21	.10
F	Chaenactis douglasii	b 13	b 16	a 4	9	8	2	.06	.01
F	Cirsium spp.	13	15	12	6	8	6	.06	.10
F	Convolvulus arvensis	-	3	-	-	1	-	.01	-
F	Collomia linearis (a)	-	b 15	a -	-	7	-	.03	-
F	Collinsia parviflora (a)	-	58	41	-	24	15	.12	.17
F	Cymopterus spp.	a -	a 2	b 14	-	2	7	.01	.06
F	Cynoglossum officinale	b 94	a 21	a 12	40	9	7	.17	.08
F	Epilobium brachycarpum (a)	-	3	3	-	3	1	.02	.03
F	Erigeron eatonii	-	-	1	-	-	1	-	.00
F	Eriogonum ovalifolium	-	-	3	-	-	2	-	.03
F	Eriogonum umbellatum	b 28	a -	a 9	13	-	5	.00	.05
F	Hackelia patens	b 97	b 89	a 30	44	36	16	.77	.45
F	Lepidium spp. (a)	-	6	-	-	2	-	.01	-
F	Linum kingii	7	-	-	2	-	-	-	-
F	Lithospermum ruderale	3	4	6	3	2	3	.03	.21
F	Machaeranthera canescens	c 79	b 40	a 3	37	16	2	.26	.06
F	Microsteris gracilis (a)	-	b 30	a 3	-	12	1	.08	.00
F	Penstemon humilis	b 242	a 190	a 181	94	73	72	3.26	3.89
F	Phlox longifolia	123	114	89	55	45	40	.30	.32
F	Polygonum douglasii (a)	-	8	-	-	3	-	.01	-
F	Ranunculus testiculatus (a)	-	b 132	a 4	-	47	2	.45	.01
F	Senecio multilobatus	-	-	3	-	-	1	-	.00

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'89	'97	'02	'89	'97	'02	'97	'02
F	Sphaeralcea coccinea	a10	ab19	b24	3	8	11	.14	.15
F	Taraxacum officinale	ab1	b10	a-	1	5	-	.02	-
F	Tragopogon dubius	a4	b20	a2	3	9	2	.04	.01
F	Unknown forb-annual (a)	-	2	-	-	1	-	.00	-
F	Veronica biloba (a)	-	b106	a-	-	38	-	.46	-
F	Vicia americana	a-	b33	b22	-	15	11	.27	.10
F	Viguiera multiflora	b35	a4	a6	19	4	3	.05	.04
F	Viola spp.	-	3	-	-	1	-	.03	-
Total for Annual Forbs		0	377	66	0	144	27	1.44	0.33
Total for Perennial Forbs		889	731	539	388	308	247	7.77	6.79
Total for Forbs		889	1108	605	388	452	274	9.22	7.13

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --

Herd unit 16C, Study no: 38

Type	Species	Strip Frequency		Average Cover %	
		'97	'02	'97	'02
B	Amelanchier alnifolia	2	3	.03	-
B	Artemisia tridentata tridentata	11	19	.90	2.64
B	Artemisia tridentata vaseyana	49	67	7.25	7.91
B	Chrysothamnus nauseosus albicaulis	2	10	.38	.72
B	Chrysothamnus viscidiflorus viscidiflorus	94	93	7.21	5.82
B	Eriogonum heracleoides	0	2	-	-
B	Gutierrezia sarothrae	2	5	.06	.18
B	Juniperus osteosperma	6	7	5.63	7.75
B	Mahonia repens	0	2	-	-
B	Purshia tridentata	24	27	5.65	4.80
B	Rosa woodsii	2	2	.30	.03
B	Symphoricarpos oreophilus	50	53	2.62	2.83
B	Tetradymia canescens	2	2	.15	.03
Total for Browse		244	292	30.21	32.73

CANOPY COVER -- LINE INTERCEPT

Herd unit 16C, Study no: 38

Species	Percent Cover	
	'97	'02
Artemisia tridentata tridentata	-	3.25
Artemisia tridentata vaseyana	-	6.58
Chrysothamnus nauseosus	-	.75
Chrysothamnus viscidiflorus viscidiflorus	-	9.42
Eriogonum heracleoides	-	.02
Juniperus osteosperma	4.6	10.83
Mahonia repens	-	.05
Purshia tridentata	-	6.67
Rosa woodsii	-	.02
Symphoricarpos oreophilus	-	2.75
Tetradymia canescens	-	.25

Key Browse Annual Leader Growth

Herd unit 16C , Study no: 38

Species	Average leader growth (in)	
	'02	
Artemisia tridentata vaseyana	1.2	
Purshia tridentata	2.5	

Point-Quarter Tree Data

Herd unit 16C , Study no: 38

Species	Trees per Acre		Average diameter (in)	
	'97	'02	'97	'02
Juniperus osteosperma	70	80	3.8	4.8

BASIC COVER --

Herd unit 16C, Study no: 38

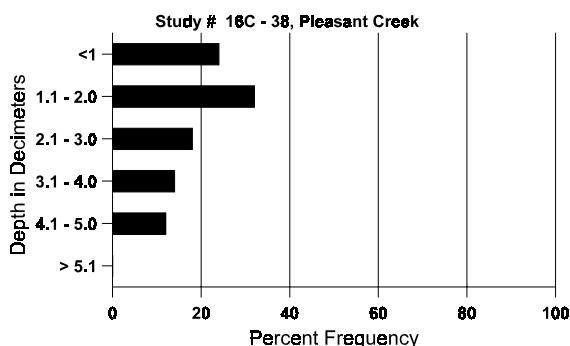
Cover Type	Nested Frequency		Average Cover %		
	'97	'02	'89	'97	'02
Vegetation	369	332	16.50	46.87	51.43
Rock	68	99	1.75	.58	1.11
Pavement	175	172	2.75	1.09	1.56
Litter	392	378	54.00	42.92	37.88
Cryptogams	49	77	0	1.62	3.67
Bare Ground	259	244	25.00	24.11	26.76

SOIL ANALYSIS DATA --

Herd Unit 16C, Study no: 38, Pleasant Creek

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
12.2	53.0 (14.1)	7.2	25.7	29.4	44.8	4.7	10.9	246.4	.5

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 16C, Study no: 38

Type	Quadrat Frequency	
	'97	'02
Sheep	6	-
Rabbit	3	4
Elk	11	11
Deer	12	24
Cattle	1	-

Pellet Transect	
Pellet Groups per Acre	Days Use per Acre (ha)
02	02
-	-
-	-
357	27 (68)
1035	80 (197)
-	-

BROWSE CHARACTERISTICS --

Herd unit 16C, Study no: 38

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Amelanchier alnifolia																	
Y	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	1	-	-	-	-	-	1	-	-	-	20		1
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
M	89	-	1	1	-	-	-	-	-	-	1	1	-	-	133	17	15
	97	-	-	1	-	-	-	-	-	-	1	-	-	-	20	21	27
	02	-	-	1	-	-	-	-	-	-	1	-	-	-	20	16	19
D	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	02	-	-	1	-	-	-	1	-	-	-	-	-	-	2	40	2
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'89	50%			50%			00%				-70%					
	'97	00%			50%			00%				+33%					
	'02	00%			67%			67%									
Total Plants/Acre (excluding Dead & Seedlings)												'89	133	Dec:	0%		
												'97	40		0%		
												'02	60		67%		
Artemesia tridentata tridentata																	
S	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	8	-	-	-	-	-	-	-	-	8	-	-	-	160		8
	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
M	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	97	6	-	-	1	-	-	-	-	-	7	-	-	-	140	54	53
	02	12	11	-	1	-	-	-	-	-	24	-	-	-	480	49	52
D	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	5	-	-	-	-	-	-	-	-	1	-	-	4	100		5
	02	1	-	-	-	-	1	-	-	-	1	-	-	1	40		2
X	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	260		13
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	120		6
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'89	00%			00%			00%									
	'97	00%			00%			20%				+26%					
	'02	41%			04%			04%									
Total Plants/Acre (excluding Dead & Seedlings)												'89	0	Dec:	0%		
												'97	400		25%		
												'02	540		7%		

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total									
		1	2	3	4	5	6	7	8	9	1	2	3	4												
Artemisia tridentata vaseyana																										
S	89	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1									
	97	15	-	-	-	-	-	-	-	-	15	-	-	-	300		15									
	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1									
Y	89	5	-	-	-	-	-	-	-	-	5	-	-	-	333		5									
	97	21	-	-	3	-	-	-	-	-	24	-	-	-	480		24									
	02	26	-	-	-	-	-	-	-	-	26	-	-	-	520		26									
M	89	13	3	-	-	-	-	-	-	-	15	-	1	-	1066	27 34	16									
	97	29	22	1	2	-	-	-	-	-	54	-	-	-	1080	29 32	54									
	02	84	12	2	-	-	1	-	-	-	99	-	-	-	1980	23 28	99									
D	89	5	1	-	-	-	-	-	-	-	6	-	-	-	400		6									
	97	4	6	1	-	-	-	-	-	-	6	-	-	5	220		11									
	02	9	-	1	-	-	-	2	-	-	7	-	-	5	240		12									
X	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	620		31									
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	740		37									
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>														
'89			15%			00%			04%			- 1%														
'97			31%			02%			06%			+35%														
'02			09%			03%			04%																	
Total Plants/Acre (excluding Dead & Seedlings)												'89	1799	Dec:	22%											
												'97	1780		12%											
												'02	2740		9%											
Chrysanthemum nauseosus albicaulis																										
Y	89	2	-	-	1	-	-	-	-	-	3	-	-	-	200		3									
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
M	89	3	1	-	-	-	-	2	-	-	6	-	-	-	400	35 22	6									
	97	-	1	-	-	-	-	-	-	-	1	-	-	-	20	30 40	1									
	02	22	-	-	-	-	-	-	-	-	22	-	-	-	440	13 13	22									
D	89	3	1	-	-	-	-	-	-	-	4	-	-	-	266		4									
	97	-	1	-	-	-	-	-	-	-	-	-	-	1	20		1									
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
X	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1									
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>														
'89			15%			00%			00%			-95%														
'97			100%			00%			50%			+91%														
'02			00%			00%			00%																	
Total Plants/Acre (excluding Dead & Seedlings)												'89	866	Dec:	31%											
												'97	40		50%											
												'02	440		0%											

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Chrysanthemum viscidiflorus viscidiflorus																	
S	89	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1
	97	19	-	-	-	-	-	-	-	-	19	-	-	-	380		19
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	89	85	3	3	-	-	-	-	-	-	91	-	-	-	6066		91
	97	109	-	-	7	-	-	-	-	-	116	-	-	-	2320		116
	02	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3
M	89	98	34	13	-	-	-	-	-	-	145	-	-	-	9666	11 12	145
	97	452	18	-	61	-	-	-	-	-	531	-	-	-	10620	9 12	531
	02	582	9	-	3	-	-	-	-	-	587	7	-	-	11880	9 12	594
D	89	10	20	5	-	-	-	-	-	-	35	-	-	-	2333		35
	97	10	-	-	-	-	-	-	-	-	8	-	-	2	200		10
	02	19	-	-	-	-	-	1	-	-	17	-	-	3	400		20
X	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	40		2
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	80		4
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'89	21%			08%			00%				-27%					
	'97	03%			00%			.30%				- 6%					
	'02	01%			00%			.48%									
Total Plants/Acre (excluding Dead & Seedlings)										'89	18065	Dec:	13%				
										'97	13140		2%				
										'02	12340		3%				
Eriogonum heracleoides																	
M	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	- -	0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	- -	0
	02	2	-	-	-	-	-	-	-	-	2	-	-	-	40	4 6	2
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'89	00%			00%			00%									
	'97	00%			00%			00%									
	'02	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)										'89	0	Dec:	-				
										'97	0		-				
										'02	40		-				

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
<i>Gutierrezia sarothrae</i>																	
Y	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
M	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	97	6	-	-	-	-	-	-	-	-	6	-	-	-	120	8	6
	02	11	-	-	-	-	-	-	-	-	11	-	-	-	220	8	11
D	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
	'89	00%		00%		00%		00%		00%							
	'97	00%		00%		00%		00%		00%					+25%		
	'02	00%		00%		00%		00%		00%							
Total Plants/Acre (excluding Dead & Seedlings)												'89	0	Dec:	0%		
												'97	180		0%		
												'02	240		8%		
<i>Juniperus osteosperma</i>																	
S	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	02	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3
Y	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
	02	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
M	89	1	-	-	-	-	-	-	-	-	1	-	-	-	66	93	1
	97	-	-	-	-	-	-	4	-	-	4	-	-	-	80	-	4
	02	3	-	-	1	-	-	1	1	-	5	1	-	-	120	-	6
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
	'89	00%		00%		00%		00%		00%					+45%		
	'97	00%		00%		00%		00%		00%					+25%		
	'02	00%		00%		00%		00%		00%							
Total Plants/Acre (excluding Dead & Seedlings)												'89	66	Dec:	-		
												'97	120		-		
												'02	160		-		
<i>Mahonia repens</i>																	
M	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	02	18	-	-	-	-	-	-	-	-	18	-	-	-	360	2	18
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
	'89	00%		00%		00%		00%		00%							
	'97	00%		00%		00%		00%		00%							
	'02	00%		00%		00%		00%		00%							
Total Plants/Acre (excluding Dead & Seedlings)												'89	0	Dec:	-		
												'97	0		-		
												'02	360		-		

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total	
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Purshia tridentata																		
M	89	-	1	-	-	-	-	-	-	-	1	-	-	-	66	16	26	1
	97	-	1	9	-	5	21	-	-	-	36	-	-	-	720	44	49	36
	02	16	-	30	-	-	-	-	-	-	46	-	-	-	920	11	39	46
D	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>						
	'89	100%			00%			00%				+91%						
	'97	17%			83%			00%				+23%						
	'02	00%			64%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'89	66	Dec:	0%			
												'97	720		0%			
												'02	940		2%			
Rosa woodsii																		
Y	89	18	-	-	-	-	-	-	-	-	18	-	-	-	1200			18
	97	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	89	17	-	-	-	-	-	-	-	-	17	-	-	-	1133	14	16	17
	97	8	-	-	-	-	-	-	-	-	8	-	-	-	160	10	17	8
	02	10	-	-	-	-	-	-	-	-	10	-	-	-	200	6	7	10
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>						
	'89	00%			00%			00%				-91%						
	'97	00%			00%			00%				+ 0%						
	'02	00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'89	2333	Dec:	-			
												'97	200		-			
												'02	200		-			

A G E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Symphoricarpos oreophilus																	
S	89	-	-	-	4	-	-	-	-	-	4	-	-	-	266		4
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	89	20	-	-	-	-	-	-	-	-	20	-	-	-	1333		20
	97	22	-	-	2	-	-	-	-	-	24	-	-	-	480		24
	02	4	-	-	-	-	-	-	-	-	4	-	-	-	80		4
M	89	26	6	-	-	1	-	-	-	-	31	-	2	-	2200	17	17
	97	45	23	1	23	-	-	-	-	-	92	-	-	-	1840	11	23
	02	91	3	-	-	-	-	-	-	-	93	1	-	-	1880	13	20
D	89	4	-	-	1	-	-	-	-	-	5	-	-	-	333		5
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
	02	2	-	1	-	-	-	-	-	-	3	-	-	-	60		3
X	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'89	12%			00%			03%				-39%					
	'97	20%			.85%			00%				-14%					
	'02	03%			.99%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'89	3866	Dec:	9%		
												'97	2340		1%		
												'02	2020		3%		
Tetradymia canescens																	
S	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	12	-	-	-	-	-	-	-	-	12	-	-	-	240		12
	02	4	-	-	-	-	-	-	-	-	4	-	-	-	80		4
M	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	97	10	-	-	-	-	-	-	-	-	10	-	-	-	200	12	25
	02	24	-	-	-	-	-	-	-	-	24	-	-	-	480	11	18
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'89	00%			00%			00%									
	'97	00%			00%			00%				+21%					
	'02	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'89	0	Dec:	-		
												'97	440		-		
												'02	560		-		